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**From:** Hager, Aaron G [hager@illinois.edu]  
**Sent:** 8/28/2020 4:13:21 PM  
**To:** Chism, William [Chism.Bill@epa.gov]; lee.vanwychen@wssa.net; hartzler@iastate.edu; wgj@purdue.edu; bradleyke@missouri.edu; Tindall, Kelly [tindall.kelly@epa.gov]  
**Subject:** RE: Any Update on Dicamba Resistance in Waterhemp or Other Weeds

Bill:

We struggle to control one of our Group 15 resistant waterhemp populations with dicamba in the field. We have had a small percentage (perhaps 30%) of treated plants survive 0.5 lb dicamba, and perhaps 10% survive 0.75 lb. Tranel's lab has done more detailed work with it and he indicated to me there is a clear distinction in response of this population to dicamba compared with a known sensitive. They currently are developing a segregating F2 population and have identified "hot spots" using RNASeq, some of which I believe map to known cytochrome P450 clusters.

As I sure has happened with others, we get several inquiries each year about dicamba failing to control waterhemp. We have screened a few populations in the greenhouse and have several additional populations coming our way later this fall.

The evolution of dicamba resistance will happen, but I also worry about effective options for use in corn. HPPD resistance is continuing to increase and my concern is that at some point in the near future dicamba will be necessary for effective control in corn. If we mess this up in soybean, I anticipate that will lead to challenges in both crops.

Best wishes,

Aaron

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**From:** Chism, William <Chism.Bill@epa.gov>  
**Sent:** Friday, August 28, 2020 8:06 AM  
**To:** lee.vanwychen@wssa.net; hartzler@iastate.edu; Hager, Aaron G <hager@illinois.edu>; wgj@purdue.edu; bradleyke@missouri.edu; Tindall, Kelly <tindall.kelly@epa.gov>  
**Subject:** Any Update on Dicamba Resistance in Waterhemp or Other Weeds

Hello Gentlemen

The Office of Pesticide Programs is working on the registration of over-the-top dicamba for cotton and soybeans. We have found some new reports of dicamba resistance in Palmer amaranth but very little discussion of waterhemp. In 2019 there was a short description of dicamba-resistant waterhemp in the Progressive Farmer (below). Is there anything you can share about dicamba-resistant waterhemp? Are there any other weed species that you are aware of where dicamba is showing signs of potential resistance?

Thank you. Bill Chism

<https://www.dtnpf.com/agriculture/web/ag/crops/article/2019/08/30/possible-dicamba-resistance-cropping>

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U.S. EPA/Office of Pesticide Programs

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